

DYNAMICS OF SOIL ORGANIC CARBON, NITROGEN, PHOSPHORUS, AND AGGREGATES STABILITY UNDER DIFFERENT GRASSLAND MANAGEMENT TYPES IN THE CENTRAL RIFT VALLEY, ETHIOPIA



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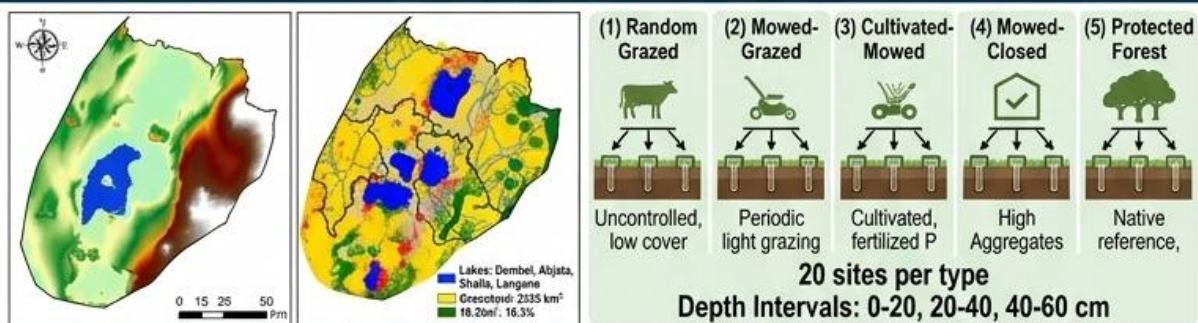
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GRAPHIC ABSTRACT & RATIONALE

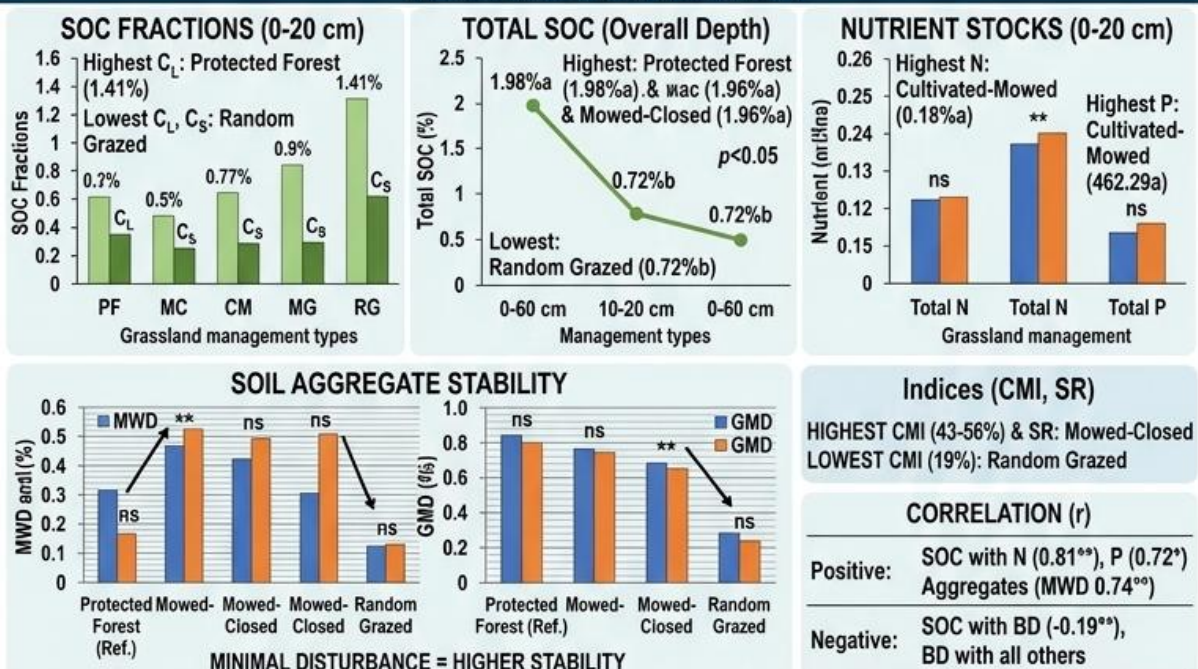


METHODS & STUDY AREA



Physicochemical analysis (pH, texture, BD, SMC, CEC) → SOC Fractions (Labile C_L , Stable C_S) → Nutrients (Total N, Total P) → Aggregates (MWD, GMD) → Indices (CMI, SR)

RESULTS & DISCUSSION



CONCLUSIONS & IMPLICATIONS

MANAGEMENT MATTERS: MINIMAL soil disturbance **ENHANCES** SOC storage and Total N.

SUSTAINABLE CHOICES: Protected Forest and Mowed-Closed enclosures are **MOST EFFECTIVE**.

INDICATORS WORK: CMI and SR effectively assess SOC potential and sustainability.

ACTION NEEDED: Apply these findings to maximize C sequestration and soil conservation.

Acknowledgements: MOPGA Visiting Fellowship, Dilla University; Correspondence: wakyadm@gmail.com

DOI: 10.1002/agg2.70195 | Agrosyst Geosci Environ. 2025;8:e70195